AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Currently amended) A method for transmitting, between a monitoring circuit integrated with a microprocessor and an analysis tool, digital messages, each message comprising at least one data packet, the method comprising:

a/ for each message of the digital messages, dividing each data packet of a digital message into at least one successive segments of a same predetermined size, each segment of the successive segments being classified according to at least one of the five following types of ~~segment~~ segments:

- a first type of segment, each segment classified as the first type containing a message start;

- a second type of segment, each segment classified as the second type containing intermediary data;

- a third type of segment, each segment classified as the third type containing a packet end;

- a fourth type of segment, each segment classified as the fourth type containing a message end; or

- a fifth type of segment, each segment classified as the fifth type being an empty segment;

b/ sending, by the monitoring circuit, at [[the]] a same time as each segment of the successive segments, an identification signal characterizing [[the]] a type difference between [[the]] a considered segment and [[the]] a previous segment; and

c/ reconstituting, by the analysis tool, the packets of the digital message by arranging end to end the successive segments containing data of a same packet;

wherein a segment of the successive segments ~~representing~~ having both the start and the end of the digital message is classified as ~~a message end~~ the fourth type of segment, and

wherein, if the at least one data packets of the digital message comprises a plurality of packets and if a segment of the successive segments ~~representing~~ has both the start of the digital message and the end of a first packet among the plurality of packets of the digital message, the segment is classified as ~~a packet end~~ the third type of segment.

2. (Previously presented) The method of claim 1, comprising:

transmitting a segment containing a message start or an empty segment after a segment containing a message end or an empty segment;

transmitting a segment containing intermediary data after a segment containing a message start or intermediary data or a packet end; and

transmitting a segment containing a packet end or a message end after a segment of any type.

3. (Previously presented) The method of claim 2, comprising assigning the identification signal:

a first value if the transmitted segment contains a message start or intermediary data;

a second value if the transmitted segment contains a packet end;

a third value if the transmitted segment contains a message end and if the previous segment contained a message end or was an empty segment; and

a fourth value if the transmitted segment is empty, or if the transmitted segment contains a message end and if the previous digital message contained a message start, intermediary data, or a packet end.

4. (Currently amended) A ~~device~~ system for transmitting, between a monitoring circuit integrated to a microprocessor and an analysis tool, digital messages, each digital message comprises at least one data packet, the device comprising:

means for dividing each data packet of a digital message into at least one successive segments of same predetermined size, each segment of the successive segments being classified according to at least one of the five following segment types:

- segment containing a message start;

- segment containing intermediary data;

- segment containing a packet end;

- segment containing a message end; or

- empty segment;

means for sending at the same time as each segment of the successive segments, an identification signal characterizing the type difference between [[the]] a considered segment and [[the]] a previous segment; and

means for reconstituting the packets of the digital message by arranging end to end the successive segments containing data of a same packet;

wherein the means for dividing each data packet classifies a segment of the successive segments ~~representing~~ having both the start and ~~classifies~~ the end of the digital message is classified as a message end segment, and

wherein, if the at least one data packets of the digital message comprises a plurality of packets and if a segment of the successive segments ~~representing~~ has both the start of the digital message and the end of a first packet among the plurality of packets of the digital message, the segment is classified as being a packet end segment.

5. Canceled

6. (Currently amended) The ~~device~~ system of claim 4, wherein the identification signal has:

a first value if the transmitted segment contains a message start or intermediary data;

a second value if the transmitted segment contains a packet end;

a third value if the transmitted segment contains a message end and if a prior segment contained a message end or was an empty segment; and

a fourth value if the transmitted segment is empty, or if the forth segment contains a message end and if a second prior message contained a message start, intermediary data, or a packet end.

7. (Currently amended) The ~~device~~ system of claim 4, wherein unused most significant bits of a last segment are assigned a predetermined value.

8. (Previously presented) The method of claim 1, further comprising assigning a predetermined value to unused most significant bits of a last segment.

9. (Currently amended) A method for transmitting, between a monitoring circuit integrated with a microprocessor and an analysis tool, at least one digital message comprising at least one data packet, comprising:

dividing the at least one data packet into a plurality of segments comprising at least a first segment and a second segment, each of the plurality of segments being of a predetermined size and being classified according to at least one of the five following types of segment:

- segment containing a message start;
- segment containing intermediary data;
- segment containing a packet end;
- segment containing a message end; or
- empty segment; and

sending from the integrated circuit to the ~~monitoring~~ analysis tool in sequence the first segment [[and]] followed by the second segment without an intervening segment,

wherein the first segment is classified as either an empty segment or a message end segment and the second segment is classified as a packet end segment, and

wherein each segment containing a message end is classified as a message end segment.

10. (Previously presented) The method of claim 9, wherein the first segment is classified as a message end and the second segment is classified as a message end.

11. (Previously presented) The method of claim 9, wherein the first segment is classified as an empty segment and the second segment is classified as a packet end.

12. (Previously presented) The method of claim 9, wherein the first segment is classified as a message end and the second segment is classified as a packet end.

13. (Previously presented) The method of claim 9, wherein the first segment is classified as an empty segment and the second segment is classified as a message end.

14. (Previously presented) The method of claim 9, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.

15. (Previously presented) The method of claim 14, further comprising sending from the integrated circuit to the monitoring tool a fourth segment of the plurality of segments, wherein the fourth segment is classified as intermediary data.

16. (Previously presented) The method of claim 10, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.

17. (Previously presented) The method of claim 16, further comprising sending from the integrated circuit to the monitoring tool a fourth segment of the plurality of segments, wherein the fourth segment is classified as intermediary data.

18. (Previously presented) The method of claim 11, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.

19. (Previously presented) The method of claim 18, further comprising sending from the integrated circuit to the monitoring tool a fourth segment of the plurality of segments, wherein the fourth segment is classified as intermediary data.

20. (Previously presented) The method of claim 12, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.